

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested. Claims 1-10, 12-17, 19-26 and 28-33 remain pending in the present application. Claims 11, 18 and 27 are canceled without prejudice or disclaimer. The balance of the claims have been amended to address cosmetic matters of form and to incorporate canceled subject matter. No new matter has been added.

By way of summary, the Official Action presents the following issues: Claim 5, 7-9, 12, 14-16, 19, 21-23, 28 and 30-32 stand rejected under 35 U.S.C. § 112, second paragraph; Claims 1 and 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nagayasu (U.S. Patent Publication 2002/0136334, hereinafter Nagayasu); Walton et al. (U.S. Patent Publication 2003/0035491, hereinafter Walton), Subramanian et al. (U.S. Patent Publication 2001/0031014, hereinafter Subramanian), Norman (U.S. Patent 6,023,492, hereinafter Norman in further view of El-Gamal et al. (U.S. Patent Publication 2001/0034868, hereinafter El-Gamal); Claims 2 and 3 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nagayasu, Walton, Subramanian, Norman, El-Gamal and in further view of Laroia et al. (U.S. Patent 6,473,418, hereinafter Laroia); Claims 10, 11, 17, 18, 26 and 27 stand rejected under 35 U.S.C. § 103 as being unpatentable over Subramanian, Norman, and in further view of El Gamal; Claims 24, 25, and 33 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nagayasu and Walton; and Claims 6, 13, 20 and 29 are objected as to matters of form, but otherwise are identified as reciting allowable subject matter.

Applicants appreciatively acknowledge the identification of allowable subject matter as recited in Claims 13, 20 and 29. However, as Applicants believe that the rejected claims also recite allowable subject matter, Applicants maintain these allowable claims in their current dependent format.

REJECTIONS UNDER 35 U.S.C. § 112

The Official Action has rejected Claims 5, 7-9, 12, 14-16, 19, 21-23, 28 and 30-32 under 35 U.S.C. § 112, second paragraph.

In response, Applicants have amended the above-identified claims to remove the terminology “undesired waves” in the place of “interference signals”. Likewise Claims 5, 12, 19 and 28 are amended to correspond to the description found at least at pages 39-40 of the specification which describes the number of multiplexed codes relative to a receiving station capacity.

Accordingly, Applicants respectfully request that the rejection of Claims 5, 7-9, 12, 14-16, 19, 21-23, 28 and 30-32 under 35 U.S.C. § 112, second paragraph, be withdrawn.

REJECTIONS UNDER 35 U.S.C. § 103

The Official Action has rejected Claims 1 and 4 under 35 U.S.C. § 103 as being unpatentable over Nagayasu, Walton, Subramanian, Norman and in further view of El-Gamal. The Official Action contends that when taken together, these five references teach all of the features of the Applicants’ claims. Applicants respectfully traverse the rejection.

Applicants amended Claim 1 recites, *inter alia*, the communication system including:

a transmitting station side including at last two sending stations employing a different interleave method configured to transmit a transmission signal obtained by segmenting transmission information into a plurality of frames, encoding each frame, power amplifying each encoded signal with a different amplitude, and interleaving all signals with each amplified signal collected into one; . . . (emphasis added)

Nagayasu is identified in the Official Action at page 3 as corresponding to the Applicants’ claimed de-interleaving methodology. For example, the Official Action cites Figure 5, block 52 as describing a deinterleaving function. Applicants note that the deinterleaving of Figure 5 corresponds to an error correcting section which performs a

process opposite to the interleaving formed at a transmitter side.¹ Applicants note that Nagayasu does not disclose or suggest a transmitting station side including at least two sending stations employing a different interleave method whereby a receiving station side performs a de-interleaving in correspondence to each different interleave method and sequentially decodes codes of the signal in descending order of signal-to-interference and noise power ratio for each deinterleaving as recited in Applicants' amended Claim 1.

As none of the other four references identified in this rejection under 35 U.S.C. § 103 disclose or suggest the above-identified features, Applicants respectfully submit that none of these references either alone or in combination remedy the deficiencies discussed above to provide a *prima facie* case of obviousness.

Accordingly, Applicants respectfully request that the rejection of Claims 1 and 4 under 35 U.S.C. § 103 be withdrawn.

The Official Action has rejected Claims 2-3 under 35 U.S.C. § 103 as being unpatentable over Nagayasu, Walton, Subramanian, Norman, El-Gamal and in further view of Laroia. The Official Action contends that when taken together, these six references render the Applicants' claims obvious. Applicants respectfully traverse the rejection.

As noted above, neither Nagayasu, Walton, Subramanian, Norman nor El-Gamal, alone or in combination, disclose all of the elements of the Applicants' amended claims. As Laroia does not remedy the deficiencies discussed above, Applicants respectfully submit that a *prima facie* case of obviousness has not been presented. Accordingly, Applicants respectfully request that the rejection of Claims 2 and 3 under 35 U.S.C. § 103 be withdrawn.

The Official Action has rejected Claims 10, 11, 17, 18, 26, and 27 under 35 U.S.C. § 103 as being unpatentable over Subramanian, Norman and in further view of El-Gamal. The

¹ See Nagayasu at paragraph [0044].

Official Action contends that these three references, when taken together, render the Applicants' claims obvious. Applicants respectfully traverse the rejection.

Applicants' amended Claim 10 recites, *inter alia*, a transmitting apparatus including:

... power amplification means for power amplifying each encoded signal with different amplitude;
said power amplification means changes a rate of amplitude amplification for each frame according to a decoding capability in a receiving station side; ...

The Official Action has cited paragraphs [0004, 0016, 0019, and 0030] of Subramanian as corresponding to the Applicants' claimed power amplification feature. Furthermore, the Official Action notes at the paragraph bridges pages 6-7 that these citations are:

interpreted as power amplifying each encoded signal with a different amplitude.

However, Applicants note that the Applicants' amended claims require that the power amplification changes a rate of amplitude amplification for each frame according to a decoding capability of a receiving station side. The Official Action provides no discussion of how the scaling functionality of Subramanian is dictated upon a receiving station side. Accordingly, Applicants respectfully submit that a *prima facie* case of obviousness has not been presented. Accordingly, Applicants respectfully request that the rejection of Claims 10, 11, 17, 18, 26, and 27 under 35 U.S.C. § 103 be withdrawn.

The Official Action has rejected Claims 24, 25 and 33 under 35 U.S.C. § 103 as being unpatentable over Nagayasu in view of Walton. The Official Action contends that these two references, when taken in combination, render the Applicants' claims obvious. Applicants respectfully traverse the rejection.

As noted above, Nagayasu is deficient with respect to Applicants' claimed deinterleaving functionality. As Walton does not remedy the deficiency discussed above, Applicants respectfully submit that a *prima facie* case of obviousness has not been presented.

Accordingly, Applicants respectfully request that the rejection of Claims 24, 25 and 33 under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Consequently, in view of the foregoing amendment and remarks, it is respectfully submitted that the present application, including Claims 1-10, 12-17, 19-26 and 28-33 is patentably distinguished over the prior art, definite, in condition for allowance, and such action is respectfully requested at an early date.

Respectfully submitted,


OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)

BDL/SAM:law:cmc


Bradley D. Lytle
Attorney of Record
Registration No.: 40,073

Scott A. McKeown
Registration No. 42,866